

## REMARKS

Applicants' claims have been amended to better clarify Applicants' claimed invention. Independent claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, have been amended to recite the elements of Applicants' data storage and retrieval system.

Claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, have been amended to recite a rail extending from one end of said data storage and retrieval system to the opposite end of said data storage and retrieval system. Support can be found in the Specification at Page 6 / Lines 1 through 6, and in FIG. 1 at element 130.

Claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, have been further amended to recite one or more moveable accessors, wherein each of those one or more moveable accessors comprises a carriage section capable of moving bidirectionally along the rail along a first axis. Support can be found in the Specification at Page 6 / Lines 14 through 18, and in FIG. 1 at element 114. Claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, have been further amended to recite one or more moveable accessors, wherein each of those one or more moveable accessors comprises an X/Y movement control card comprising a memory device disposed on the carriage assembly. Support can be found in the Specification at Page 8 / Lines 14-19, and at Page 9 / Lines 4 through 10. Claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, have been further amended to recite one or more moveable accessors, wherein each of those one or more moveable accessors comprises a lifting servo section capable of moving bidirectionally along a second axis, wherein said first axis is perpendicular to said second axis. Support can be found in the Specification at Page 6 / Lines 15 to 16, and in FIG. 1 at element 112. Claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, have been further amended to recite one or more moveable

accessors, wherein each of those one or more moveable accessors comprises a gripper mechanism disposed on said lifting servo section. Support can be found in the Specification at Page 6 / Lines 15 through 17. Claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, have been further amended to recite one or more moveable accessors, wherein each of those one or more moveable accessors comprises an accessor control card disposed on said lifting servo section. Support can be found in the Specification at Page 8 / Lines 15 to 16.

Claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, have been further amended to recite a first information transfer station comprising a plurality of information transfer slots. Support can be found in the Specification at Page 5 / Lines 5 through 8, and in FIG. 1 at element 182.

Claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, have been further amended to recite a second information transfer station comprising a plurality of information transfer slots. Support can be found in the Specification at Page 5 / Lines 14 through 16, and in FIG. 1 at element 192.

No new matter has been entered. Reexamination and reconsideration of the application, as amended, is respectfully requested.

Claims 1, 2, 4, 6, 7, 10-12, 15-20, 22-24, 27, 28, 30, and 33 stand rejected under 35 U.S.C. § 102(a) as being anticipated by Kern et al. (U.S. Pat. No. 6,202,124).

Claims 3 and 5 stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kern et al in view of Osten (U.S.Pat. No. 5,948,075).

Claims 8, 13, 14, 25, and 26, stand rejected under 35 U.S.C. § 103(a) as being unpatentable Kern et al.

Claims 9, 21, and 29, stand rejected under 35 U.S.C. § 103(a) as being unpatentable

over Kern et al. in view of Korngiebel et al. (U.S. Pat. No. 5,416,914).

Claims 31, 33, 34, and 35, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kern et al. in view of Riedel (U.S. Patent Application Publication No. 2003/0051104).

Regarding the rejections of claims 1, 2, 4, 6, 7, 10-12, 15-20, 22-24, 27, 28, 30, and 33 under 35 U.S.C. § 102(a) as being anticipated by Kern et al., it is well-settled that "[a] claim is anticipated only if each and every element as set forth in the claim is found, either expressly or inherently described, in a single prior art reference." *Verdegaal Bros. v. Union Oil Co. of Cal.*, 814 F.2d 628, 631, 2 USPQ2d 1051, 1053 (Fed.Cir. 1987); MPEP 2131. Moreover, "[t]he identical invention must be shown in as complete detail as is contained in the . . . claim."

*Richardson v. Suzuki Motor Co.*, 868 F.2d 1226, 1236, 9 USPQ2d 1913, 1920 (Fed.Cir. 1989).

Kern et al. teach a data storage system with an outboard data transfer module that directs data transfer operations without requiring substantial host involvement. Col. 2 / Lines 5-9. Kern et al. nowhere teach a data storage and retrieval system which comprises one or more hard disks individually disposed in one or more portable hard disk drive units; a rail extending from one end of said data storage and retrieval system to the opposite end of said data storage and retrieval system; one or more moveable accessors, wherein each of those one or more moveable accessors comprises a carriage section capable of moving bidirectionally along said rail along a first axis, an X/Y movement control card comprising a memory device disposed on said carriage assembly, a lifting servo section capable of moving bidirectionally along a second axis, wherein said first axis is perpendicular to said second axis, a gripper mechanism disposed on said lifting servo section, and an accessor control card disposed on said

lifting servo section; one or more first servers, wherein each of said one or more first servers comprises a first operating system and a storage management program; a first information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said first information transfer station; a first communication link interconnecting said one or more first servers and said first information transfer station; one or more second servers, wherein each of said one or more second servers comprises a second operating system, and wherein said one or more second servers do not comprise a storage management program; a second information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said second information transfer station; and a second communication link interconnecting said one or more second servers and said second information transfer station, as recited in claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, as amended herein.

This being the case, Applicants respectfully submit that claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, as amended herein, are not anticipated by Kern et al. Therefore, Applicants further respectfully submit that the rejections of claims 1, 10, 13, 15, 21, 22, 25, 27, 29, 30, and 33, as amended herein, have been successfully traversed.

Claims 2, 4, 6, and 7, depend, directly or indirectly, from claim 1. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Therefore, claims 2, 4, 6, and 7, as amended herein, include all the elements of claim 1, as amended herein.

For the reasons set forth above, Applicants' respectfully submit that claim 1, as

amended herein, is patentable over Kern et al. This being the case, Applicants respectfully submit that claims 2, 4, 6, and 7, as amended herein, are patentable over Kern et al. Therefore, Applicants further respectfully submit that the rejections of claims 2, 4, 6, and 7, as amended herein, have been successfully traversed.

Claims 11 and 12 depend from claim 10. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Therefore, claims 11 and 12, as amended herein, include all the elements of claim 10, as amended herein.

For the reasons set forth above, Applicants' respectfully submit that claim 10, as amended herein, is patentable over Kern et al. This being the case, Applicants respectfully submit that claims 11 and 12, as amended herein, are patentable over Kern et al. Therefore, Applicants further respectfully submit that the rejections of claims 11 and 12, as amended herein, have been successfully traversed.

Claims 16, 17, 18, 19, and 20, depend, directly or indirectly, from claim 15. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Therefore, claims 16, 17, 18, 19, and 20, as amended herein, include all the elements of claim 15, as amended herein.

For the reasons set forth above, Applicants' respectfully submit that claim 15, as amended herein, is patentable over Kern et al. This being the case, Applicants respectfully submit that claims 16, 17, 18, 19, and 20, as amended herein, are patentable over Kern et al. Therefore, Applicants further respectfully submit that the rejections of claims 16, 17, 18, 19, and 20, as amended herein, have been successfully traversed.

Claims 23 and 24 depend from claim 22. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Therefore, claims 23 and 24, as amended herein, include all the elements of claim 22, as amended herein.

For the reasons set forth above, Applicants' respectfully submit that claim 22, as amended herein, is patentable over Kern et al. This being the case, Applicants respectfully submit that claims 23 and 24, as amended herein, are patentable over Kern et al. Therefore, Applicants further respectfully submit that the rejections of claims 23 and 24, as amended herein, have been successfully traversed.

Claim 28 depends from claim 27. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Therefore, claim 28, as amended herein, includes all the elements of claim 27, as amended herein.

For the reasons set forth above, Applicants' respectfully submit that claim 27, as amended herein, is patentable over Kern et al. This being the case, Applicants respectfully submit that claim 28, as amended herein, is patentable over Kern et al. Therefore, Applicants further respectfully submit that the rejection of claim 28, as amended herein, has been successfully traversed.

Regarding the rejections of claims 3 and 5 as unpatentable over Kern et al. in view of Osten, Osten teaches an interface in a data-processing system for identifying operating parameters of storage systems and other elements within a storage system enclosure. Col. 1 / Lines 60 - 64. Osten nowhere teaches or suggests nowhere teach a data storage and retrieval

system which comprises one or more hard disks individually disposed in one or more portable hard disk drive units; a rail extending from one end of said data storage and retrieval system to the opposite end of said data storage and retrieval system; one or more moveable accessors, wherein each of those one or more moveable accessors comprises a carriage section capable of moving bidirectionally along said rail along a first axis, an X/Y movement control card comprising a memory device disposed on said carriage assembly, a lifting servo section capable of moving bidirectionally along a second axis, wherein said first axis is perpendicular to said second axis, a gripper mechanism disposed on said lifting servo section, and an accessor control card disposed on said lifting servo section; one or more first servers, wherein each of said one or more first servers comprises a first operating system and a storage management program; a first information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said first information transfer station; a first communication link interconnecting said one or more first servers and said first information transfer station; one or more second servers, wherein each of said one or more second servers comprises a second operating system, and wherein said one or more second servers do not comprise a storage management program; a second information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said second information transfer station; and a second communication link interconnecting said one or more second servers and said second information transfer station, as recited in claims 3 and 5, as amended herein.

“To establish prima facie obviousness of a claimed invention, all the claim limitations

must be taught or suggested by the prior art." MPEP 2143.03; *In re Royka*, 490 F.2d 981, 180 USPQ 580 (CCPA 1974). Neither Kern et al., nor Osten, singly or in combination, teach or suggest a data storage and retrieval system which comprises one or more hard disks individually disposed in one or more portable hard disk drive units; a rail extending from one end of said data storage and retrieval system to the opposite end of said data storage and retrieval system; one or more moveable accessors, wherein each of those one or more moveable accessors comprises a carriage section capable of moving bidirectionally along said rail along a first axis, an X/Y movement control card comprising a memory device disposed on said carriage assembly, a lifting servo section capable of moving bidirectionally along a second axis, wherein said first axis is perpendicular to said second axis, a gripper mechanism disposed on said lifting servo section, and an accessor control card disposed on said lifting servo section; one or more first servers, wherein each of said one or more first servers comprises a first operating system and a storage management program; a first information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said first information transfer station; a first communication link interconnecting said one or more first servers and said first information transfer station; one or more second servers, wherein each of said one or more second servers comprises a second operating system, and wherein said one or more second servers do not comprise a storage management program; a second information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said second information transfer station; and a second communication link interconnecting said one or more second servers and



said second information transfer station, as recited in claim 1, as amended herein.

Claims 3 and 5 indirectly depend from claim 1. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Therefore, claims 3 and 5, as amended herein, include all the elements of claim 1, as amended herein.

For the reasons set forth above, Applicants respectfully submit that claim 1, as amended herein, is patentable over Kern et al. in view of Osten. This being the case, Applicants respectfully submit that claims 3 and 5, as amended herein, are patentable over Kern et al. in view of Osten. Therefore, Applicants further respectfully submit that the rejections of claims 3 and 5, as amended herein, have been successfully traversed.

This being the case, Applicants respectfully submit that claims 3 and 5, as amended herein, are patentable over Kern et al. in view of Osten. Therefore, Applicants further respectfully submit that the rejections of claims 3 and 5, as amended herein, have been successfully traversed.

Claims 8, 13, 14, 25, and 26, stand rejected under 35 U.S.C. § 103(a) as being unpatentable over Kern et al. Kern et al. teach a data storage system with an outboard data transfer module that directs data transfer operations without requiring substantial host involvement. Col. 2 / Lines 5-9. Kern et al. nowhere teach a data storage and retrieval system which comprises one or more hard disks individually disposed in one or more portable hard disk drive units; a rail extending from one end of said data storage and retrieval system to the opposite end of said data storage and retrieval system; one or more moveable accessors, wherein each of those one or more moveable accessors comprises a carriage section capable of moving

bidirectionally along said rail along a first axis, an X/Y movement control card comprising a memory device disposed on said carriage assembly, a lifting servo section capable of moving bidirectionally along a second axis, wherein said first axis is perpendicular to said second axis, a gripper mechanism disposed on said lifting servo section, and an accessor control card disposed on said lifting servo section; one or more first servers, wherein each of said one or more first servers comprises a first operating system and a storage management program; a first information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said first information transfer station; a first communication link interconnecting said one or more first servers and said first information transfer station; one or more second servers, wherein each of said one or more second servers comprises a second operating system, and wherein said one or more second servers do not comprise a storage management program; a second information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said second information transfer station; and a second communication link interconnecting said one or more second servers and said second information transfer station, as recited in claims 1, 13, and 25, as amended herein.

This being the case, Applicants respectfully submit that claims 1, 13, and 25, as amended herein, are patentable over Kern et al. Therefore, Applicants further respectfully submit that the rejections of claims 1, 13, and 25, as amended herein, have been successfully traversed.

Claim 8 depends from claim 1. Under 35 U.S.C. § 112, fourth paragraph, "a claim in

dependent form shall be construed to incorporate by reference all the limitations of he claim to which it refers.” Therefore, claim 8, as amended herein, includes all the elements of claim 1, as amended herein.

For the reasons set forth above, Applicants’ respectfully submit that claim 1, as amended herein, is patentable over Kern et al. This being the case, Applicants respectfully submit that claim 8, as amended herein, is patentable over Kern et al. Therefore, Applicants further respectfully submit that the rejection of claim 8, as amended herein, has been successfully traversed.

Claim 14 depends from claim 13. Under 35 U.S.C. § 112, fourth paragraph, “a claim in dependent form shall be construed to incorporate by reference all the limitations of he claim to which it refers.” Therefore, claim 14, as amended herein, includes all the elements of claim 13, as amended herein.

For the reasons set forth above, Applicants’ respectfully submit that claim 13, as amended herein, is patentable over Kern et al. This being the case, Applicants respectfully submit that claim 14, as amended herein, is patentable over Kern et al. Therefore, Applicants further respectfully submit that the rejection of claim 14, as amended herein, has been successfully traversed.

Claim 26 depends from claim 25. Under 35 U.S.C. § 112, fourth paragraph, “a claim in dependent form shall be construed to incorporate by reference all the limitations of he claim to which it refers.” Therefore, claim 26, as amended herein, includes all the elements of claim 25, as amended herein.

For the reasons set forth above, Applicants’ respectfully submit that claim 25, as

amended herein, is patentable over Kern et al. This being the case, Applicants respectfully submit that claim 26, as amended herein, is patentable over Kern et al. Therefore, Applicants further respectfully submit that the rejection of claim 26, as amended herein, has been successfully traversed.

Regarding the rejections of claims 9, 21, and 29, under 35 U.S.C. § 103(a) as being unpatentable over Kern et al. in view of Korngiebel et al. Korngiebel et al. teach a "removable media management system that interfaces with the host computer operating system to direct all allocation activities . . ." Col. 2 / Lines 20 - 22.

Neither Kern et al., nor Korngiebel et al., singly or in combination, teach or suggest a data storage and retrieval system which comprises one or more hard disks individually disposed in one or more portable hard disk drive units; a rail extending from one end of said data storage and retrieval system to the opposite end of said data storage and retrieval system; one or more moveable accessors, wherein each of those one or more moveable accessors comprises a carriage section capable of moving bidirectionally along said rail along a first axis, an X/Y movement control card comprising a memory device disposed on said carriage assembly, a lifting servo section capable of moving bidirectionally along a second axis, wherein said first axis is perpendicular to said second axis, a gripper mechanism disposed on said lifting servo section, and an accessor control card disposed on said lifting servo section; one or more first servers, wherein each of said one or more first servers comprises a first operating system and a storage management program; a first information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said first information transfer station; a first communication

link interconnecting said one or more first servers and said first information transfer station; one or more second servers, wherein each of said one or more second servers comprises a second operating system, and wherein said one or more second servers do not comprise a storage management program; a second information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said second information transfer station; and a second communication link interconnecting said one or more second servers and said second information transfer station, as recited in claims 1, 21, and 29, as amended herein.

This being the case, Applicants respectfully submit that claims 21 and 29, as amended herein, are patentable over Kern et al in view of Korngiebel et al. Therefore, Applicants further respectfully submit that the rejections of claims 21 and 29, as amended herein, have been successfully traversed.

Claim 9 depends from claim 1. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Therefore, claim 9, as amended herein, includes all the elements of claim 1, as amended herein.

For the reasons set forth above, Applicants' respectfully submit that claim 1, as amended herein, is patentable over Kern et al. in view of Korngiebel et al. This being the case, Applicants respectfully submit that claim 9, as amended herein, is patentable over Kern et al. in view of Korngiebel et al. Therefore, Applicants further respectfully submit that the rejection of claim 9, as amended herein, has been successfully traversed.

Regarding the rejections of claims 31, 33, 34, and 35, under 35 U.S.C. § 103(a) as being

unpatentable over Kern et al. in view of Riedel (U.S. Patent Application Publication No. 2003/0051104). Riedel teaches a technique for migrating data between storage devices for reducing power consumption.

Neither Kern et al., nor Riedel, singly or in combination, teach or suggest a data storage and retrieval system which comprises one or more hard disks individually disposed in one or more portable hard disk drive units; a rail extending from one end of said data storage and retrieval system to the opposite end of said data storage and retrieval system; one or more moveable accessors, wherein each of those one or more moveable accessors comprises a carriage section capable of moving bidirectionally along said rail along a first axis, an X/Y movement control card comprising a memory device disposed on said carriage assembly, a lifting servo section capable of moving bidirectionally along a second axis, wherein said first axis is perpendicular to said second axis, a gripper mechanism disposed on said lifting servo section, and an accessor control card disposed on said lifting servo section; one or more first servers, wherein each of said one or more first servers comprises a first operating system and a storage management program; a first information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive units can be releaseably coupled to said first information transfer station; a first communication link interconnecting said one or more first servers and said first information transfer station; one or more second servers, wherein each of said one or more second servers comprises a second operating system, and wherein said one or more second servers do not comprise a storage management program; a second information transfer station comprising a plurality of information transfer slots, wherein one or more of said one or more portable hard disk drive

units can be releaseably coupled to said second information transfer station; and a second communication link interconnecting said one or more second servers and said second information transfer station, as recited in claims 30 and 33, as amended herein.

This being the case, Applicants respectfully submit that claims 30 and 33, as amended herein, are patentable over Kern et al in view of Riedel. Therefore, Applicants further respectfully submit that the rejections of claims 30 and 33, as amended herein, have been successfully traversed.

Claim 31 depends from claim 30. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Therefore, claim 31, as amended herein, includes all the elements of claim 30, as amended herein.

For the reasons set forth above, Applicants' respectfully submit that claim 30, as amended herein, is patentable over Kern et al. in view of Riedel. This being the case, Applicants respectfully submit that claim 31, as amended herein, is patentable over Kern et al. in view of Riedel. Therefore, Applicants further respectfully submit that the rejection of claim 31, as amended herein, has been successfully traversed.

Claims 34 and 35 depend from claim 33. Under 35 U.S.C. § 112, fourth paragraph, "a claim in dependent form shall be construed to incorporate by reference all the limitations of the claim to which it refers." Therefore, claims 34 and 35, as amended herein, include all the elements of claim 33, as amended herein.

For the reasons set forth above, Applicants' respectfully submit that claim 33, as amended herein, is patentable over Kern et al. in view of Riedel. This being the case,

Applicants respectfully submit that claims 34 and 35, as amended herein, are patentable over Kern et al. in view of Riedel. Therefore, Applicants further respectfully submit that the rejection of claims 34 and 35, as amended herein, have been successfully traversed.

Having dealt with all of the outstanding objections and/or rejections of the claims, Applicants submit that the application as amended is in condition for allowance, and an allowance at an early date is respectfully solicited. In the event there are any fee deficiencies or additional fees are payable, please charge them, or credit an overpayment, to our Deposit Account No. 502262.

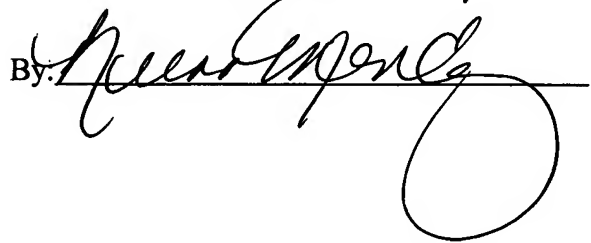
Respectfully submitted,



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**CERTIFICATE OF MAILING**

I hereby certify that this correspondence is being deposited with the United States postal Service as First Class Mail in an envelope addressed to: MAIL STOP RCE, Commissioner for Patents, P.O. Box 1450, Alexandria, Virginia 22313-1450 on October 20, 2004, at Tucson, AZ.

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